

RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical
Information Center (STIC) no errors detected.

Application Serial Number: 10/583,466
Source: 1FWP
Date Processed by STIC: 3/26/07

ENTERED



IFWP

RAW SEQUENCE LISTING

DATE: 03/26/2007

PATENT APPLICATION: US/10/583,466

TIME: 11:21:10

Input Set : F:\P5201R1 Sequence Listing.txt

Output Set: N:\CRF4\03262007\J583466.raw

3 <110> APPLICANT: Stephen J. Anderson, et al.
 5 <120> TITLE OF INVENTION: Novel Gene Disruptions, Compositions and Methods
 6 Relating Thereto
 8 <130> FILE REFERENCE: P5201R1
 10 <140> CURRENT APPLICATION NUMBER: US 10/583,466
 11 <141> CURRENT FILING DATE: 2006-06-15
 13 <150> PRIOR APPLICATION NUMBER: PCT/US2004/041721
 14 <151> PRIOR FILING DATE: 2004-12-13
 16 <150> PRIOR APPLICATION NUMBER: US 60/530,043
 17 <151> PRIOR FILING DATE: 2003-12-16
 19 <160> NUMBER OF SEQ ID NOS: 70
 21 <210> SEQ ID NO: 1
 22 <211> LENGTH: 1210
 23 <212> TYPE: DNA
 24 <213> ORGANISM: Homo sapiens
 26 <400> SEQUENCE: 1

27 cagcgcgtgg ccggcgccgc tgtggggaca gcatgagcgg cggttggatg 50
 29 gcgcaggttg gagcgtggcg aacaggggct ctgggccttg cgctgctgct 100
 31 gctgctcggc ctccggactag gcctggaggc cgccgcgagc ccgctttcca 150
 33 ccccgacctc tgcccaggcc gcaggcccca gctcaggctc gtgcccaccc 200
 35 accaagttcc agtgccgcac cagtggctta tgcgtgcccc tcacctggcg 250
 37 ctgcgacagg gacttggact gcagcgatgg cagcgatgag gaggagtgc 300
 39 ggattgagcc atgtaccag aaagggaat gccaccgcc ccctggcctc 350
 41 ccctgcccc gcaccggcgt cagtgcactgc tctgggggaa ctgacaagaa 400
 43 actgcgcaac tgcagccgcc tggcctgcct agcaggcgag ctccgttgca 450
 45 cgctgagcga tgactgcatt ccactcacgt ggcgctgcga cggccacca 500
 47 gactgtcccg actccagcga cgagctcggc tgtggaacca atgagatcct 550
 49 cccggaaggg gatgccaaa ccatggggcc ccctgtgacc ctggagagt 600
 51 tcacctctct caggaatgcc acaaccatgg ggccccctgt gacctggag 650
 53 agtgtccct ctgtcgggaa tgccacatcc tcctctgccc gagaccagtc 700
 55 tggagccca actgcctatg gggttattgc agctgctgcg gtgctcagt 750
 57 caagcctggt caccgccacc ctctccttt tgcctggct ccgagcccag 800
 59 gagcgccctc gccactggg gttactggtg gccatgaagg agtccctgct 850
 61 gctgtcagaa cagaagacct cgctgccctg aggacaagca cttgccacca 900
 63 ccgtcactca gccctgggcg tagccggaca ggaggagagc agtgatgcgg 950
 65 atgggtaccc gggcacacca gccctcagag acctgagttc ttctggccac 1000
 67 gtggaacctc gaaccgcagc tcctgcagaa gtggcccttg agattgaggg 1050
 69 tccctggaca ctccctatgg agatccgggg agctaggatg gggaaacctgc 1100
 71 cacagccaga actgaggggc tggccccagg cagctcccag ggggtagaac 1150
 73 ggccctgtgc ttaagacact ccctgctgcc ccgtctgagg gtggcgatta 1200
 75 aagttgcttc 1210
 77 <210> SEQ ID NO: 2
 78 <211> LENGTH: 282

See P. 6

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/583,466

DATE: 03/26/2007

TIME: 11:21:10

Input Set : F:\P5201R1 Sequence Listing.txt

Output Set: N:\CRF4\03262007\J583466.raw

```

79 <212> TYPE: PRT
80 <213> ORGANISM: Homo sapiens
82 <400> SEQUENCE: 2
83 Met Ser Gly Gly Trp Met Ala Gln Val Gly Ala Trp Arg Thr Gly
84   1           5           10           15
86 Ala Leu Gly Leu Ala Leu Leu Leu Leu Leu Gly Leu Gly Leu Gly
87           20           25           30
89 Leu Glu Ala Ala Ala Ser Pro Leu Ser Thr Pro Thr Ser Ala Gln
90           35           40           45
92 Ala Ala Gly Pro Ser Ser Gly Ser Cys Pro Pro Thr Lys Phe Gln
93           50           55           60
95 Cys Arg Thr Ser Gly Leu Cys Val Pro Leu Thr Trp Arg Cys Asp
96           65           70           75
98 Arg Asp Leu Asp Cys Ser Asp Gly Ser Asp Glu Glu Glu Cys Arg
99           80           85           90
101 Ile Glu Pro Cys Thr Gln Lys Gly Gln Cys Pro Pro Pro Pro Gly
102           95          100          105
104 Leu Pro Cys Pro Cys Thr Gly Val Ser Asp Cys Ser Gly Gly Thr
105          110          115          120
107 Asp Lys Lys Leu Arg Asn Cys Ser Arg Leu Ala Cys Leu Ala Gly
108          125          130          135
110 Glu Leu Arg Cys Thr Leu Ser Asp Asp Cys Ile Pro Leu Thr Trp
111          140          145          150
113 Arg Cys Asp Gly His Pro Asp Cys Pro Asp Ser Ser Asp Glu Leu
114          155          160          165
116 Gly Cys Gly Thr Asn Glu Ile Leu Pro Glu Gly Asp Ala Thr Thr
117          170          175          180
119 Met Gly Pro Pro Val Thr Leu Glu Ser Val Thr Ser Leu Arg Asn
120          185          190          195
122 Ala Thr Thr Met Gly Pro Pro Val Thr Leu Glu Ser Val Pro Ser
123          200          205          210
125 Val Gly Asn Ala Thr Ser Ser Ser Ala Gly Asp Gln Ser Gly Ser
126          215          220          225
128 Pro Thr Ala Tyr Gly Val Ile Ala Ala Ala Ala Val Leu Ser Ala
129          230          235          240
131 Ser Leu Val Thr Ala Thr Leu Leu Leu Leu Ser Trp Leu Arg Ala
132          245          250          255
134 Gln Glu Arg Leu Arg Pro Leu Gly Leu Leu Val Ala Met Lys Glu
135          260          265          270
137 Ser Leu Leu Leu Ser Glu Gln Lys Thr Ser Leu Pro
138          275          280
140 <210> SEQ ID NO: 3
141 <211> LENGTH: 1867
142 <212> TYPE: DNA
143 <213> ORGANISM: Homo sapiens
145 <400> SEQUENCE: 3
146 acactggcca aacactcgca tcccagggcg tctccggctg ctcccattga 50
148 gctgtctgct cgctgtgccc gctgtgacct ctgtgcccgc gctgtcgccg 100
150 ctgctaccgc gtctgtcgga cgcgggagac gccagcgagc tgggtgattgg 150

```

RAW SEQUENCE LISTING

DATE: 03/26/2007

PATENT APPLICATION: US/10/583,466

TIME: 11:21:10

Input Set : F:\P5201R1 Sequence Listing.txt

Output Set: N:\CRF4\03262007\J583466.raw

```

152 agccctgcgg agagctcaag cgcccagctc tgcccaggga gcccaggctg 200
154 ccccgtaggt cccatagttg ctgcaggagt ggagcctttc cctttgcgat 250
156 cgctaaacca ccatgagctg cgtcctgggt ggtgtcatcc ccttggggct 300
158 gctgttctct gtctgaggat cccaaggcta cctcctgccc aacgtcactc 350
160 tcttagagga gctgtctcagc aaataccagc acaacgagtc tcaactcccg 400
162 gtccgcagag ccatccccag ggaggacaag gaggagatcc tcatgtctga 450
164 caacaagctt cggggccagg tgcagcctca ggcctccaac atggagtaca 500
166 tgacctggga tgacgaactg gagaagtctg ctgcagcgtg ggccagtcag 550
168 tgcattctgg agcacggggc caccagtctg ctggtgtcca tcgggcagaa 600
170 cctgggcgct cactggggca ggtatcgctc tccgggggtc catgtgcagt 650
172 cctggtatga cgagggtgaag gactacacct acccctaccc gagcgagtgc 700
174 aacccctggt gtccagagag gtgctcgggg cctatgtgca cgcactacac 750
176 acagatagtt tggggccacca ccaacaagat cgggtgtgct gtgaacacct 800
178 gccggaagat gactgtcttg ggagaagttt gggagaacgc ggtctacttt 850
180 gtctgcaatt attctccaaa ggggaactgg attggagaag cccctacaa 900
182 gaatggccgg cctgtctctg agtggccacc cagctatgga ggcagctgca 950
184 ggaacaactt gtgttaccga gaagaaacct acactccaaa acctgaaacg 1000
186 gacgagatga atgagggtga aacggctccc attcctgaag aaaaccatgt 1050
188 ttggctccaa ccgagggtga tgagaccac caagcccaag aaaacctctg 1100
190 cgggtcaacta catgacccaa gtgctcagat gtgacaccaa gatgaaggac 1150
192 aggtgcaaag ggtccacgtg taacaggtag cagtggccag caggctgcct 1200
194 gaaccacaag gcgaagatct ttggaagtct gttctatgaa agctcgtcta 1250
196 gcatatgccg cggcccatc cactacggga tcttgatga caagggaggc 1300
198 ctggtggata tcaccaggaa cgggaagggt ccttcttcg tgaagtctga 1350
200 gagacacggc gtgcagtcct tcagcaaata caaaccttcc agctcattca 1400
202 tgggtgtcaa agtgaaagtg caggatttgg actgctacac gaccgttgct 1450
204 cagctgtgcc cgtttgaaaa gccagcaact cactgccccaa gaatccattg 1500
206 tccggcacac tgcaaagacg aaccttccta ctgggctccg gtgtttggaa 1550
208 ccaacatcta tgcagatacc tcaagcatct gcaagacagc tgtgcacgcg 1600
210 ggagtcattc gcaacgagag tgggggtgac gtggacgtga tgcccgtgga 1650
212 taaaaagaag acctacgtgg gctcgtcag gaatggagtt cagtctgaaa 1700
214 gcctggggag tccctgggat ggaaaggcct tccggatctt tgctgtcagg 1750
216 catttccctt tcggccgcg tgaatttcca gcaccagggg agaaggggcg 1800
218 tcttcaggag ggcttcgggg ttttgccttt atttttattt tgtcattgcg 1850
220 gggatatagg agagtca 1867
222 <210> SEQ ID NO: 4
223 <211> LENGTH: 497
224 <212> TYPE: PRT
225 <213> ORGANISM: Homo sapiens
227 <400> SEQUENCE: 4
228 Met Ser Cys Val Leu Gly Gly Val Ile Pro Leu Gly Leu Leu Phe
229 1 5 10 15
231 Leu Val Cys Gly Ser Gln Gly Tyr Leu Leu Pro Asn Val Thr Leu
232 20 25 30
234 Leu Glu Glu Leu Leu Ser Lys Tyr Gln His Asn Glu Ser His Ser
235 35 40 45
237 Arg Val Arg Arg Ala Ile Pro Arg Glu Asp Lys Glu Glu Ile Leu
238 50 55 60
240 Met Leu His Asn Lys Leu Arg Gly Gln Val Gln Pro Gln Ala Ser

```

RAW SEQUENCE LISTING

DATE: 03/26/2007

PATENT APPLICATION: US/10/583,466

TIME: 11:21:10

Input Set : F:\P5201R1 Sequence Listing.txt

Output Set: N:\CRF4\03262007\J583466.raw

241		65		70		75
243	Asn Met Glu Tyr Met Thr Trp Asp Asp Glu Leu Glu Lys Ser Ala					
244		80		85		90
246	Ala Ala Trp Ala Ser Gln Cys Ile Trp Glu His Gly Pro Thr Ser					
247		95		100		105
249	Leu Leu Val Ser Ile Gly Gln Asn Leu Gly Ala His Trp Gly Arg					
250		110		115		120
252	Tyr Arg Ser Pro Gly Phe His Val Gln Ser Trp Tyr Asp Glu Val					
253		125		130		135
255	Lys Asp Tyr Thr Tyr Pro Tyr Pro Ser Glu Cys Asn Pro Trp Cys					
256		140		145		150
258	Pro Glu Arg Cys Ser Gly Pro Met Cys Thr His Tyr Thr Gln Ile					
259		155		160		165
261	Val Trp Ala Thr Thr Asn Lys Ile Gly Cys Ala Val Asn Thr Cys					
262		170		175		180
264	Arg Lys Met Thr Val Trp Gly Glu Val Trp Glu Asn Ala Val Tyr					
265		185		190		195
267	Phe Val Cys Asn Tyr Ser Pro Lys Gly Asn Trp Ile Gly Glu Ala					
268		200		205		210
270	Pro Tyr Lys Asn Gly Arg Pro Cys Ser Glu Cys Pro Pro Ser Tyr					
271		215		220		225
273	Gly Gly Ser Cys Arg Asn Asn Leu Cys Tyr Arg Glu Glu Thr Tyr					
274		230		235		240
276	Thr Pro Lys Pro Glu Thr Asp Glu Met Asn Glu Val Glu Thr Ala					
277		245		250		255
279	Pro Ile Pro Glu Glu Asn His Val Trp Leu Gln Pro Arg Val Met					
280		260		265		270
282	Arg Pro Thr Lys Pro Lys Lys Thr Ser Ala Val Asn Tyr Met Thr					
283		275		280		285
285	Gln Val Val Arg Cys Asp Thr Lys Met Lys Asp Arg Cys Lys Gly					
286		290		295		300
288	Ser Thr Cys Asn Arg Tyr Gln Cys Pro Ala Gly Cys Leu Asn His					
289		305		310		315
291	Lys Ala Lys Ile Phe Gly Ser Leu Phe Tyr Glu Ser Ser Ser Ser					
292		320		325		330
294	Ile Cys Arg Ala Ala Ile His Tyr Gly Ile Leu Asp Asp Lys Gly					
295		335		340		345
297	Gly Leu Val Asp Ile Thr Arg Asn Gly Lys Val Pro Phe Phe Val					
298		350		355		360
300	Lys Ser Glu Arg His Gly Val Gln Ser Leu Ser Lys Tyr Lys Pro					
301		365		370		375
303	Ser Ser Ser Phe Met Val Ser Lys Val Lys Val Gln Asp Leu Asp					
304		380		385		390
306	Cys Tyr Thr Thr Val Ala Gln Leu Cys Pro Phe Glu Lys Pro Ala					
307		395		400		405
309	Thr His Cys Pro Arg Ile His Cys Pro Ala His Cys Lys Asp Glu					
310		410		415		420
312	Pro Ser Tyr Trp Ala Pro Val Phe Gly Thr Asn Ile Tyr Ala Asp					
313		425		430		435

RAW SEQUENCE LISTING

DATE: 03/26/2007

PATENT APPLICATION: US/10/583,466

TIME: 11:21:10

Input Set : F:\P5201R1 Sequence Listing.txt

Output Set: N:\CRF4\03262007\J583466.raw

```

315 Thr Ser Ser Ile Cys Lys Thr Ala Val His Ala Gly Val Ile Ser
316           440           445           450
318 Asn Glu Ser Gly Gly Asp Val Asp Val Met Pro Val Asp Lys Lys
319           455           460           465
321 Lys Thr Tyr Val Gly Ser Leu Arg Asn Gly Val Gln Ser Glu Ser
322           470           475           480
324 Leu Gly Thr Pro Arg Asp Gly Lys Ala Phe Arg Ile Phe Ala Val
325           485           490           495
327 Arg Gln
330 <210> SEQ ID NO: 5
331 <211> LENGTH: 2359
332 <212> TYPE: DNA
333 <213> ORGANISM: Homo sapiens
335 <400> SEQUENCE: 5
336 ctgtcaggaa ggaccatctg aaggtctgcaa tttgttctta gggaggcagg 50
338 tgctggcctg gcctggatct tccaccatgt tctgtttgct gccttttgat 100
340 agcctgattg tcaaccttct gggcatctcc ctgactgtcc tcttcaccct 150
342 ccttctcggt ttcacatag tgccagccat ttttggagtc tcttttggt 200
344 tccgcaaact ctacatgaaa agtctgttaa aaatctttgc gtgggctacc 250
346 ttgagaatgg agcgaggagc caaggagaag aaccaccagc tttacaagcc 300
348 ctacaccaac ggaatcattg caaaggatcc cacttcacta gaagaagaga 350
350 tcaaagagat tcgtcgaagt ggtagtagta aggtcttgga caacactcca 400
352 gagttcgagc tctctgacat tttctacttt tgccggaaaag gaatggagac 450
354 cattatggat gatgaggtga caaagagatt ctgagcagaa gaactggagt 500
356 cctggaacct gctgagcaga accaattata acttcagta catcagcctt 550
358 cggctcacgg tcctgtgggg gttaggagtg ctgattcggg actgctttct 600
360 gctgccgctc aggatagcac tggctttcac agggattagc cttctggtgg 650
362 tgggcacaaac tgtggtggga tacttgccaa atgggaggtt taaggaattc 700
364 atgagtaaac atgttcactt aatgtgttac cggatctgcg tgcgagcgt 750
366 gacagccatc atcacctacc atgacaggga aaacagacca agaaatggtg 800
368 gcatctgtgt ggccaatcat acctcaccga tcgatgtgat catcttggcc 850
370 agcgtatggc attatgccat ggtgggtcaa gtgcacgggg gactcatggg 900
372 tgtgattcag atagccatgg tgaaggcctg ccacacgtc tggtttgagc 950
374 gctcggaagt gaaggatcgc cacctgggtg ctaagagact gactgaacat 1000
376 gtgcaagata aaagcaagct gcctatcctc atcttcccag aaggaacctg 1050
378 catcaataat acatcgggtg tgatgttcaa aaagggaagt tttgaaattg 1100
380 gagccacagt ttacctgtt gctatcaagt atgacctca atttggcgat 1150
382 gccttctgga acagcagcaa atacgggatg gtgacgtacc tgctgcgaat 1200
384 gatgaccagc tgggccattg tctgcagcgt gtggtacctg cctcccatga 1250
386 ctagagaggc agatgaagat gctgtccagt ttgcgaatag ggtgaaatct 1300
388 gccattgcca ggcagggagg acttgtggac ctgctgtggg atgggggcct 1350
390 gaagagggag aaggtgaagg acacgttcaa ggaggagcag cagaagctgt 1400
392 acagcaagat gatcgtgggg aaccacaagg acaggagccg ctctgagcc 1450
394 tgccctcagc tggctggggc caccgtgcgg ggtgccaacg ggctcagagc 1500
396 tggagtggcc gccgcgccc cactgctgt gtcctttcca gactccaggg 1550
398 ctccccgggc tgctctggat ccaggactc cggttttcgc cgagccgcag 1600
400 cgggatccct gtgcaccgg cgcagcctac ccttggtggt ctaaaccgat 1650
402 gctgctgggt gttgcgaccc aggacgagat gccttgtttc tttacaata 1700
404 agtcgttggg ggaatgccat taaagtgaac tccccacctt tgcacgtgt 1750

```

RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/10/583,466

DATE: 03/26/2007
TIME: 11:21:11

Input Set : F:\P5201R1 Sequence Listing.txt
Output Set: N:\CRF4\03262007\J583466.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:9; N Pos. 911

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/583,466

DATE: 03/26/2007

TIME: 11:21:11

Input Set : F:\P5201R1 Sequence Listing.txt

Output Set: N:\CRF4\03262007\J583466.raw

L:907 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:900